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Memo

To: Members of the New Mexico Climate Change Advisory Group (CCAG)

From: The Center for Climate Strategies (CCS)

Re: Consideration of Draft Pending Policy Options for CCAG Approval

Date: August 8, 2006

Welcome to the fifth meeting of the CCAG!

At this meeting we will begin the process of identifying final climate change mitigation policy recommendations by reviewing draft pending policy options. To aid this discussion, we are providing tables for each of the batches of Technical Work Group (TWG) recommended options (attached). These tables provide summary information for each policy option on potential greenhouse gas (GHG) reductions in years 2012 and 2020, as well as cost effectiveness (dollars per metric ton GHG removed). Detailed descriptions of each of the 69 draft pending policy options are posted on the project website for your review at: www.nmclimatechange.us.

At the last CCAG meeting we reviewed a set of four potential approaches to accounting for GHG emissions under a statewide inventory and forecast. These include both consumption and production based approaches, with both a net (including sinks) and gross (not including sinks) approach provided for each. We have included a worksheet (below) with the results of current estimated progress from all pending policy options as they relate to Executive Order targets for each of these systems to aid you in understanding how closely the current set of recommendations match target needs.

During the CCAG meeting we hope to identify a set of policy options that have full (unanimous) consent. For the remaining options that may not have full consensus at this stage, we hope to identify any specific barriers to consensus and focus on resolution of these issues for the last CCAG meeting. At this last meeting we will take final votes on the remaining policy options.

As a reminder, CCAG members can consider four decision criteria in selecting and designing final recommendations, including:

- GHG reduction potential
- Cost effectiveness

- Contributing issues
- Feasibility issues

In addition, it may be helpful to understand that potential conflicts for specific policy options are often addressed by the development of alternative approaches to key policy variables. These include:

- Goal levels
- Timing of implementation
- Coverage of implementing parties
- Type of implementation mechanism
- Modifications to the analysis of GHG reductions or costs

As we work through the draft pending policy options at our CCAG meeting, our TWG leaders will present each option briefly, and then we will have a round of clarifying questions for the CCAG, followed by a check for the level of consensus on each option by asking for objections. We will set aside those options not having immediate consensus (those with objections) for additional conversation later in the day.

We have provided substantial background reading on all of the policy options for the meeting through the policy templates posted for each TWG. Feel free to bring these detailed documents to the meeting, but we will have a few master copies for reference on hand. We will use this summary document and our power point slides to guide the days' discussion.

We look forward to a productive meeting.

Tables and Policy Descriptions

Table #	Technical Work Group
1	Residential, Commercial and Industrial Pending Options List – 19 Followed by Residential, Commercial and Industrial Options Descriptions
2	Energy Supply Pending Options List – 16 Followed by Energy Supply Options Descriptions
3	Transportation and Land Use Pending Options List – 16 Followed by Transportation and Land Use Options Descriptions
4	Agriculture and Forestry Pending Options List – 15 Followed by Agriculture and Forestry Options Descriptions
5	Cross Cutting Issues Pending Options List – 3 Followed by Cross Cutting Issues Options Descriptions
	Total Pending Options – 69

Worksheet 1.

**Estimated Progress of Pending Policy Options Compared to Executive Order Targets
 Under Different Accounting Systems (Double Counting of Options Removed)**

Consumption Basis Net

	1990	2000	2012	2020
GHG Emissions	24.2	34.5	45.8	56.4
Targets			34.5	31.1
E.O. GHG Reduction Needs			11.3	25.4
Total GHG Reductions from TWGs			9.38	27.85
Difference Between Recs & Targets			1.9	-2.5
Reference Case + Reductions			36.4	28.6

Consumption Basis Gross

	1990	2000	2012	2020
GHG Emissions	45.1	55.4	66.7	77.3
Targets			55.4	49.9
E.O. GHG Reduction Needs			11.3	27.4
Total GHG Reductions from TWGs			9.38	27.85
Difference Between Recs & Targets			1.9	-0.4
Reference Case + Reductions			57.3	49.5

Production Basis Net

	1990	2000	2012	2020
GHG Emissions	47.6	62.0	71.0	80.8
Targets			62.0	55.8
E.O. GHG Reduction Needs			9.0	25.0
Total GHG Reductions from TWGs			9.38	27.85
Difference Between Recs & Targets			-0.4	-2.9
Reference Case + Reductions			61.6	53.0

Production Basis Gross

	1990	2000	2012	2020
GHG Emissions	68.5	82.9	91.9	101.7
Targets			82.9	74.6
E.O. GHG Reduction Needs			9.0	27.1
Total GHG Reductions from TWGs			9.38	27.85
Difference Between Recs & Targets			-0.4	-0.8
Reference Case + Reductions			82.5	73.9

Table 1.
Residential Commercial and Industrial Technical Work Group
Summary List of Pending Policy Options

#	Policy Name	2012 GHG Savings (MMtCO ₂ e)	2020 GHG Savings (MMtCO ₂ e)	2007-2020 GHG Savings (MMtCO ₂ e)	Cost-Effectiveness (\$/MtCO ₂ e)
RCI-1	Demand Side Management (DSM) Programs, Energy Efficiency Funds, and/or Energy Efficiency Requirements for Electricity	0.2	1.0	5.5	-\$18
RCI-2	Demand Side Management (DSM) Programs, Energy Efficiency Funds, and/or Energy Efficiency Requirements for Natural Gas and Other Fuels	0.03	0.2	1.0	-\$55
RCI-3	Regional Market Transformation Alliance	0.1	0.5	2.9	-\$27
RCI-4	State Appliance Standards	0.1	0.3	2.1	-\$46
RCI-5	Green Power Purchasing	0.1	0.1	1.0	\$7

RCI-6	Rate Design (Including Time of Use Rates, Increasing Block Rates, and Seasonal Use Rates)	0.3	0.3	3.6	-\$40
RCI-7A	Improved Building Codes	0.2	0.4	3.6	-\$12
RCI-7B	Solar Hot Water and Solar-PV-ready Codes for New Buildings	0.1	0.5	3.4	\$69
RCI-8A	Building Energy Performance Requirements for State-funded and Other Government Buildings (“Reach Codes”)	0.03	0.3	1.5	\$6
RCI-8B	Building Energy Performance Promotion and Incentives for Energy Performance Enhancements (Attaining “Reach Codes”) in Non-Government Buildings (Including Existing Buildings)	Not Yet Estimated	Not Yet Estimated	Not Yet Estimated	Not Yet Estimated
RCI-9	Government Agency Requirements and Goals (including procurement) -- Focus on operations	Not Yet Estimated	Not Yet Estimated	Not Yet Estimated	Not Yet Estimated
RCI-10	Education and Outreach for Building Professionals	Not Quantified			
RCI-11	Consumer Education Programs	Not Quantified			

RCI-12	Increased Emphasis on Energy and Environmental Consideration in Higher Education	[These policies are being considered jointly with the Cross-Cutting Issues TWG]			
RCI-13	Incentives and Promotion for Renewable Energy and Clean Combined Heat and Power	[These policies are being considered jointly with the Energy Supply TWG]			
RCI-14	Regulatory/Legislative Grid, Pricing, and other Policies to Support Distributed Generation				
RCI-16	Participation in Regional (or National) Industry Emissions Cap and Trade Programs	[This policy is being considered jointly with the Energy Supply TWG]			
RCI-17	Voluntary Emissions Targets	Not Yet Estimated	Not Yet Estimated	Not Yet Estimated	Not Yet Estimated
RCI-18	Use of Alternative Gases (Non-Energy Emissions, Industrial Process Gases)	Describe Qualitatively at Present			
RCI-19	Solid Waste Recycling, Source Reduction, and Composting	Not Yet Estimated	Not Yet Estimated	Not Yet Estimated	Not Yet Estimated

Table 2.
Energy Supply Technical Work Group
Summary List of Pending Policy Options

#	Policy Name	GHG Savings (MMtCO ₂ e)			NPV (2007– 2020) \$ Millions	Cost Effectiveness (NPV \$/tCO ₂ e)
		2012	2020	Cum. Total 2007-2020		
ES-1	Mandate(s) for Renewable Energy (RPS, etc.)					
	ES-1a: 10% in 2011, 0.5% increase/year to 2021	0.2	1.4	8.6	-280	-32.5
	ES-1b: 10% in 2011, 1% increase/year to 2021	0.6	3.7	15.1	-498	-33.0
	ES-1c: 10% in 2011, 2 % increase/year to 2021	1.2	5.4	23.3	-588	-25.3
ES-2	Financial Incentives for Distributed Renewables					
	ES-2a: Payback 25 years; PV only; PNM only	0.0	0.1	0.6	27	42.7
	ES-2b: Payback 25 years; PV, wind & biomass; all utilities	0.1	0.4	2.7	103	37.4

#	Policy Name	GHG Savings (MMtCO ₂ e)			NPV (2007– 2020) \$ Millions	Cost Effectiveness (NPV \$/tCO ₂ e)
		2012	2020	Cum. Total 2007-2020		
	ES-2c: Payback 10 years; PV, wind & biomass; all utilities	0.7	2.4	15.2	559	36.8
	ES-2d: Payback 3 years; PV, wind & biomass; all utilities	1.7	5.5	35.2	1294	36.8
ES-3	Renewable Energy Transmission and Storage					
	ES-3a: 4000 MW additional wind generation by 2020	0.7	6.4	26.8	823	30.7
	ES-3b: 2000 MW additional wind generation by 2020	0.3	3.2	13.4	412	30.7
ES-4	Financial Incentives for Centralized Renewables	2.2	9.2	26.8	1213	45.3
ES-5	R&D including Energy Storage	0.3	5.2	13.1	236	18.0
ES-6	Advanced Coal/Fossil Technologies (e.g., IGCC with carbon capture)					
	ES-6a: All new coal plants would be IGCC with 60% capture	0.0	3.2	8.0	168	21.2
	ES-6b: All new coal plants would be IGCC with 90% capture	0.2	4.8	11.9	209	17.5

#	Policy Name	GHG Savings (MMtCO ₂ e)			NPV (2007– 2020) \$ Millions	Cost Effectiveness (NPV \$/tCO ₂ e)
		2012	2020	Cum. Total 2007-2020		
ES-7	Nuclear Relicensing & Upgrading	Not Quantified				
ES-8	Incentives and Barrier Reductions for Combined Heat & Power (CHP)					
	ES-8a: CHP ramps up to 3% from 2008-2020	1.1	3.0	19.5	-620	-31.8
	ES-8b: CHP ramps up to 1.5% from 2008-2020	0.5	1.5	9.8	-311	-31.9
ES-9	Demand-Side Management, Energy Efficiency, and Integrated Resource Planning (IRP)	TBD	TBD	TBD	TBD	TBD
ES-10	Transmission Capacity and Corridors	TBD	TBD	TBD	TBD	TBD
ES-11	CO ₂ Capture and Storage or Reuse (CCSR)	TBD	TBD	TBD	TBD	TBD
ES-12	Methane Reduction in Oil & Gas Operations: BMPs & PROs					
	ES-12a: 40-60% reduction in vented methane by 2012	TBD	TBD	TBD	TBD	TBD

#	Policy Name	GHG Savings (MMtCO ₂ e)			NPV (2007– 2020) \$ Millions	Cost Effectiveness (NPV \$/tCO ₂ e)
		2012	2020	Cum. Total 2007-2020		
	ES-12b: 90-95% reduction in vented methane by 2050	TBD	TBD	TBD	TBD	TBD
ES-13	CO2 Reduction from Fuel Combustion in Oil & Gas Operations	TBD	TBD	TBD	TBD	TBD
ES-14	GHG Cap & Trade					
	ES-14a: 2.4% - 2.8% CI, \$6.16 - \$9.86 safety valve	-0.1	1.0	3.6	25	7
	ES-14b: 2.6% - 3.0% CI, \$8.83 - \$14.13 safety valve	0.1	1.0	4.2	42	10
	ES-14c: 2.8% - 3.5% CI, \$22.09 - \$35.34 safety valve	-0.1	8.1	31.3	541	17
	ES-14d: 3.0% - 4.0% CI, \$30.92 - \$49.47 safety valve	0.1	9.1	43.5	804	19
ES-15	Generation Performance Standard	3.1	3.1	45	269	6
ES-16	Regulatory Reform for Electric Cooperatives	<i>This is a non-quantified enabling policy.</i>				

Table 3.
Transportation and Land Use Technical Work Group
Summary List of Pending Policy Options

#	Policy Name	2012 GHG Savings (MMtCO ₂ e)	2020 GHG Savings (MMtCO ₂ e)	2007-2020 GHG Savings (MMtCO ₂ e)	Cost-Effectiveness (\$/MtCO ₂ e)
TLU-1	State Clean Car Program	0.4	1.9	10.5	-\$115
TLU-2	Low Rolling Resistance Tires	0.0	0.3	3.5	-\$61
TLU-3	<i>Procurement of Efficient Fleet Vehicles</i>	<i>In progress</i>			
TLU-4	Pay-As-You-Drive Insurance	0.15 – 0.63	0.19 – 0.79	In progress	Zero net cost
TLU-5	Incentive/Disincentive Options Bundle	0.1	0.1	In progress	In progress
TLU-6	Alternative Fuels Use [6a] Alternative Fuel Production [6b]	2.1	4.7	35.8	Zero net cost
	VMT Reduction Bundle TLU-7 to TLU-12				
TLU-7	Infill, Brownfield Re-development	1.2	1.3	13.5	In progress

TLU-8	Transit-Oriented Development				
TLU-9	Smart Growth Planning, Modeling, Tools				
TLU-10	Multimodal Transportation Bundle				
<i>TLU-11</i>	<i>GHG Offset Requirements for Large Developments [in progress]</i>				
<i>TLU-12</i>	<i>Targeted Open Space and Croplands Protection [in progress]</i>				
TLU-13	Diesel Retrofits	0.041	0.003	0.331	In progress
TLU-14	Truck Stop Electrification/Anti-Idling	0.34	0.49	5.1	\$4 at \$2.40/gal \$-66 at \$3.40/gal
TLU-15	Intermodal Freight Initiatives	In progress			
TLU-16	Lower Speed Limit for Commercial Trucks	0.14-0.18	0.22-0.30	2.2-3.0	\$50 at \$2.40/gal \$-19 at \$3.40/gal

Table 4.
Agriculture and Forestry Technical Work Group
Summary List of Pending Policy Options

#	Policy Name	2012 GHG Savings (MMtCO ₂ e)	2020 GHG Savings (MMtCO ₂ e)	2007-2020 GHG Savings (MMtCO ₂ e)	Cost-Effectiveness (\$/MtCO ₂ e)
F-1	Forestland Protection from Developed Uses	0.08	0.13	1.2	22
F-2a	Forest Health & Restoration - Residential Lands	0.18	0.18	2.5	-21
F-2b	Forest Health & Restoration - Other Lands	0.45	0.45	6.3	-21
A-1	Manure Energy Utilization (dairies)	0.35	0.90	7.5	3
A-1	Manure Energy Utilization (feedlots)	0.001	0.002	0.02	320
A-2	Biomass Feedstocks for Electricity or Steam Production	0.93	1.87	15	-77
A-3	Ethanol Production	1.3	1.9	17	0
A-4	Nutrient Management	0.004	0.012	0.08	-46
A-5	Manure Management - Land Application	TBD	TBD	TBD	TBD
A-6	Conservation Tillage/No-Till	0.06	0.13	0.97	17

A-7	Convert Agricultural Land to Grassland or Forest	0.36 ^a	0.36 ^a	4.0 ^a	7 ^a
A-8	Reduce Permanent Conversion of Ag & Rangeland to Developed Uses	0.12	0.20	1.6	62
A-9	Programs to Support Organic Farming	0.62	0.39	6.2	0.5
A-10	Programs to Support Local Farming/Buy Local	0.32	1.1	5.9	0.2
A-11	Biodiesel Production	0.37	0.65	5.3	0

Table 5.
Cross Cutting Issues Technical Work Group
Summary List of Pending Policy Options

#	Policy Name
CC-1	State Greenhouse Gas Reporting
CC-2	State Greenhouse Gas Registry
CC-3	State Climate Public Education and Outreach